

Serial No. **10/577,429**

Docket No. **P-0777**

Amdt. dated May 6, 2009

Reply to Office Action of January 6, 2009

**REMARKS/ARGUMENTS**

Claims 2, 4-12, 17-26, and 28 are pending. Claims 29-35 have been withdrawn from consideration by the Examiner. Applicant maintains his traversal of the Restriction Requirement set forth in the Reply filed November 24, 2008; however, merely to expedite prosecution of the application, claims 29-35 have been canceled to be pursued in a Continuation/Divisional Application. By this Amendment, the drawings, the specification, and claims 2, 4-8, 11-12, 17, 19-26 and 28 are amended, and claims 1, 3, 13-16, 27, and 29-35 are canceled without prejudice or disclaimer. No new matter is added. Support for the claims can be found throughout the specification, including the original claims, and the drawings. Reconsideration in view of the above amendments and following remarks is respectfully requested.

The Office Action objected to claims 1-3, 6-7, and 12-28 for informalities. As noted above, claims 1, 3, 13-16, and 27 have been canceled. With respect to claims 2, 7, 11-12, 17-26, and 28, each of the Examiner's comments has been addressed in amending the claims. Accordingly, the objection should be withdrawn.

The Office Action rejected claims 3, 5, 11-12, 27, and 28 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. As noted above, claims 3 and 27 have been canceled. With respect to claims 5, 11, 12, and 28, each of the Examiner's comments have been addressed in amending the claims. Accordingly, the rejection should be withdrawn.

The Office Action rejected claims 1-3 under 35 U.S.C. §102(b) as being anticipated by Loprete et al. (hereinafter "Loprete"), U.S. Patent No. 6,591,621. As noted above, claims 1 and 3

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have been canceled. The rejection is respectfully traversed in so far as it applies to claim 2.

Independent claim 2 has been amended to include the features of claim 3, so as to recite, *inter alia*, that the controlling the rotational direction of the compressor comprises performing a defrosting operation when a temperature inside the refrigerator and a pre-set defrosting temperature are identical; and when the defrosting operation is terminated, rotating the compressor clockwise and repeatedly stopping and rotating the compressor counterclockwise at pre-set time periods. Loprete does not disclose or suggest at least such features of independent claim 2, or the claimed combination.

That is, in the rejection of claim 3 in the Office Action on page 6, the Examiner asserted that such features are disclosed in column 26, lines 51-52 and column 25, lines 13-17 of Loprete. However, in such passages, Loprete fails to disclose or suggest at least the above-mentioned features of independent claim 2. That is, Loprete is directed to two stage reciprocating compressors and associated HVAC systems and methods. In the passages cited by the Examiner, Loprete merely discloses that a control system provides a load matching capability for heating and cooling and fewer and shorter defrost cycles. The control system includes a thermostat 228 that is electrically connected to the motors of the compressor, a blower, a fan, and an expansion device when an electrically connected device is utilized. See, for example, Figure 50 and column 25, lines 13-17 and column 26, lines 47-54 of Loprete. However, the load matching capability and the electrically connected thermostat of Loprete do not disclose or suggest performing the defrosting operation when a temperature inside the refrigerator and a

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temperature are identical, and when the defrosting operation is terminated, rotating the compressor clockwise and repeatedly stopping and rotating the compressor counterclockwise at pre-set time periods. Thus, Loprete fails to disclose or suggest all of the features of independent claim 2, or the claimed combination thereof.

The Examiner further asserted that:

This must comprise a step in which when the temperature inside the refrigerator and a pre-set defrosting temperature are identical, a defrosting operation is performed, as otherwise it is not load-matching. Further, as the temperature inside the refrigerator is greater following a defrosting cycle and the compression ratio is greater when rotated in [a] first direction, rotating the compressor in the first direction when the defrosting operation is terminated is also part of load-matching. Further, the system of Loprete is controlled by a thermostat...and the thermostat cited is programmable; as it is digital, it must have some defined sampling period, and therefore it must therefore reassess the required compressor settings at pre set time interval.

However, as set forth above, there is no disclosure or suggestion in Loprete that the defrosting operation is performed when a temperature inside the refrigerator and a pre-set defrosting temperature are identical, and when the defrosting operation is terminated, the compressor is rotated clockwise and the compressor is repeatedly stopped and rotated counterclockwise at pre-set time periods. Thus, the Examiner's assertions are clearly based on impermissible hindsight gleaned from Applicants' own disclosure.

Accordingly, the rejection of independent claim 2 over Loprete should be withdrawn.

The Office Action rejected claims 4-28 under 35 U.S.C. §103(a) as being unpatentable over Loprete. As noted above, claims 13-16 and 27 have been canceled. The rejection is

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respectfully traversed in so far as it applies to claims 4-12, 17-26, and 28.

Dependent claims 4-12 are allowable over Loprete at least for the reasons set forth above with respect to independent claim 2, from which they depend, as well as for their added features. Accordingly, the rejection of claims 4-12 over Loprete should be withdrawn.

Independent claim 17 recites, *inter alia*, that the controlling the rotation direction of the compressor comprises when a door of the refrigerator is closed, sensing a first temperature inside the refrigerator; after a pre-set time period elapses, sensing a second temperature inside the refrigerator; when a difference between the first and second temperatures is not lower than a pre-set reference temperature, rotating the compressor clockwise; and when the difference between the first and second temperatures is lower than the pre-set reference temperature, rotating the compressor counterclockwise. Independent claim 19 recites, *inter alia*, that the controlling the rotation direction of the compressor comprises when a power supplied to the refrigerator is cut off beyond a predetermined time period and then re-supplied, the compressor is rotated clockwise; and when the power supplied to the refrigerator is cut off within the predetermined time period and then re-supplied, the compressor is rotated in the same direction as a direction of the compressor before power is cut off. Independent claim 21 recites, *inter alia*, that the controlling the rotation direction of the compressor comprises determining whether a rotation direction of a rotation direction select signal that rotates the compressor and an actual rotation direction of the compressor are identical according to a temperature inside the refrigerator; and if the rotation direction of the rotation direction select signal and the actual

direction of the compressor are different, rotating the compressor in a direction opposite to the rotation direction of the rotation direction select signal. Independent claim 25 recites, *inter alia*, that the controlling the rotation direction of the compressor comprises rotating the compressor of the refrigerator clockwise during a pre-set time period; and when the pre-set time period elapses, rotating the compressor counterclockwise. Loprete does not disclose or suggest at least such features, or the respective claimed combinations of independent claims 17, 19, 21, and 25.

That is, nowhere does Loprete disclose or suggest such features nor does the Examiner assert that Loprete discloses such features. Further, the Examiner's proposed modification of Loprete is clearly based on impermissible hindsight gleaned from Applicant's own disclosure.

Accordingly, the rejection of independent claims 17, 19, 21, and 25 over Loprete should be withdrawn. Dependent claims 18, 20, 22-23, 26, and 28 are allowable over Loprete at least for the reasons set forth above with respect to independent claims 17, 19, 21, and 25, from which they respectively depend, as well as for their added features.

The Office Action rejected claim 24 under 35 U.S.C. §103(a) as being unpatentable over Loprete in view of D'Entremont et al. (hereinafter "D'Entremont"), U.S. Patent No. 5,200,872. The rejection is respectfully traversed.

Dependent claim 24 is allowable over Loprete at least for the reasons set forth above with respect to independent claim 21, from which it depends, as well as for its added features. D'Entremont fails to overcome the deficiencies of Loprete, as it is merely cited for allegedly teaching wherein the actual rotation direction of the compressor is sensed through at least one

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rotation direction sensor installed at the compressor and wherein the at least one rotation direction sensor generates a first or second signal according to the rotation direction of the compressor. Accordingly, the rejection of dependent claim 24 over Loprete and D'Entremont should be withdrawn.

### **CONCLUSION**

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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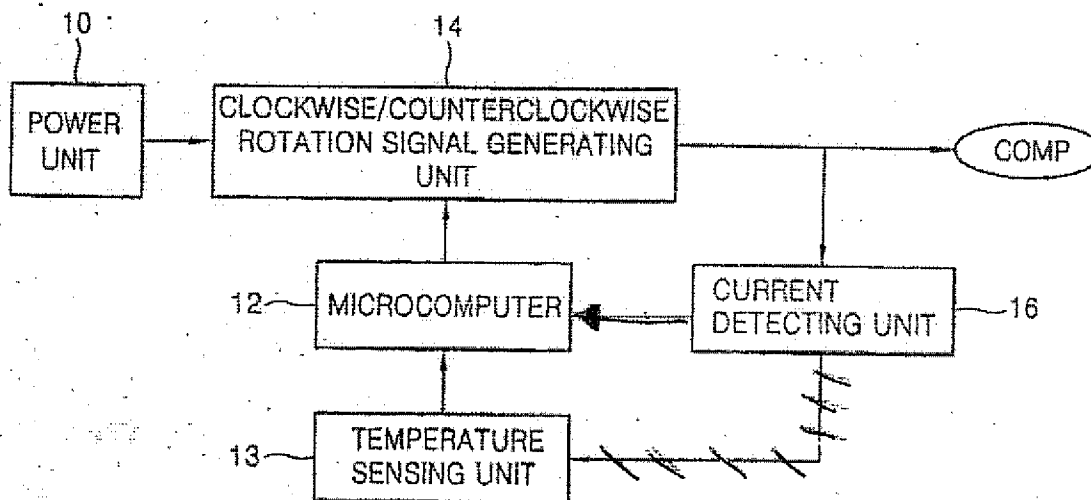
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**Date: May 6, 2009**

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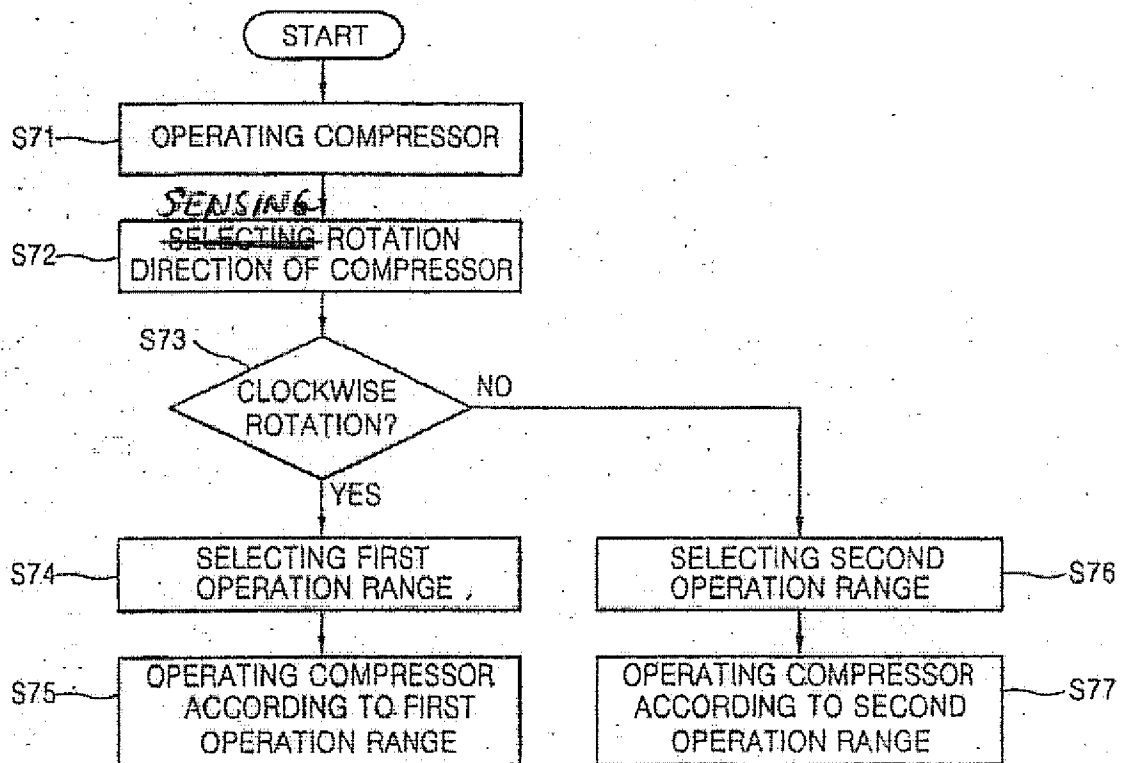
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FIG. 8

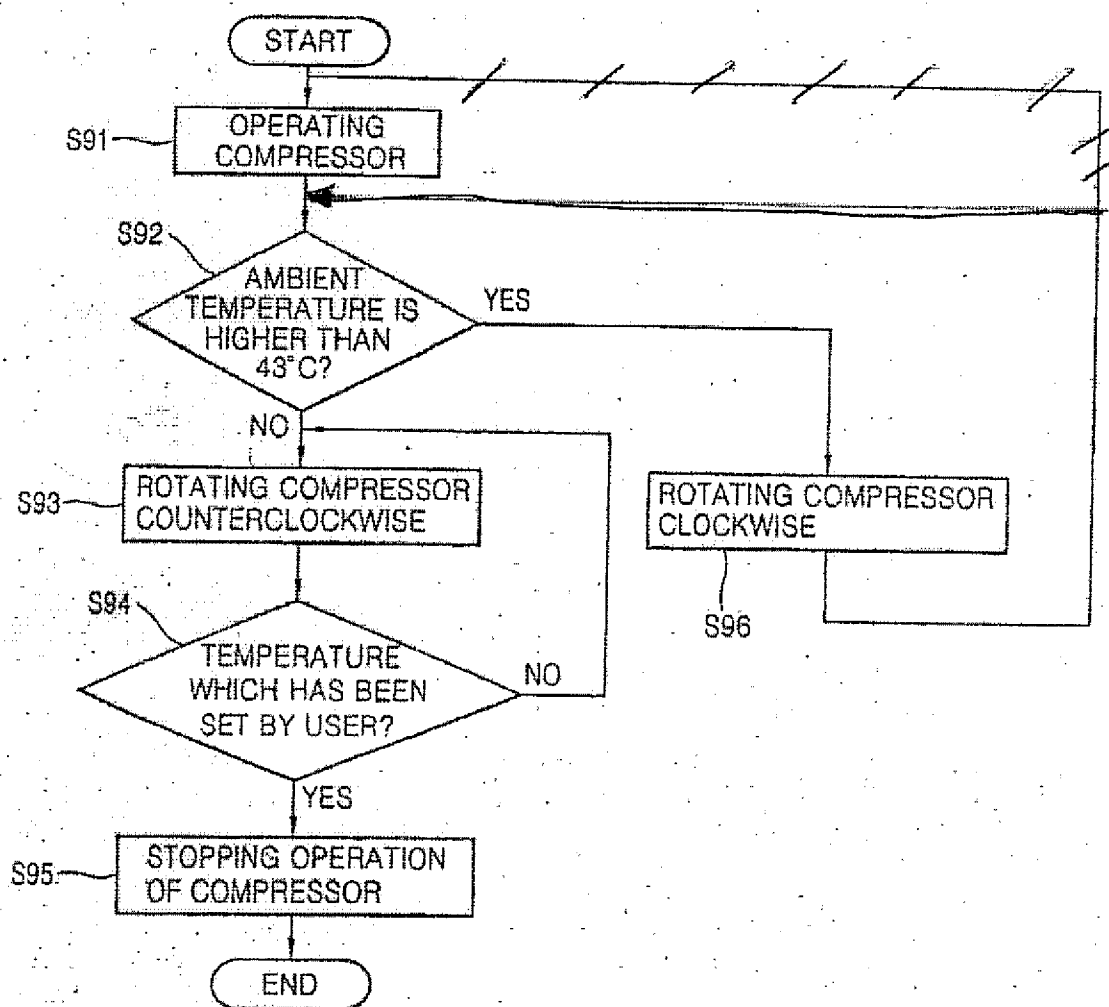




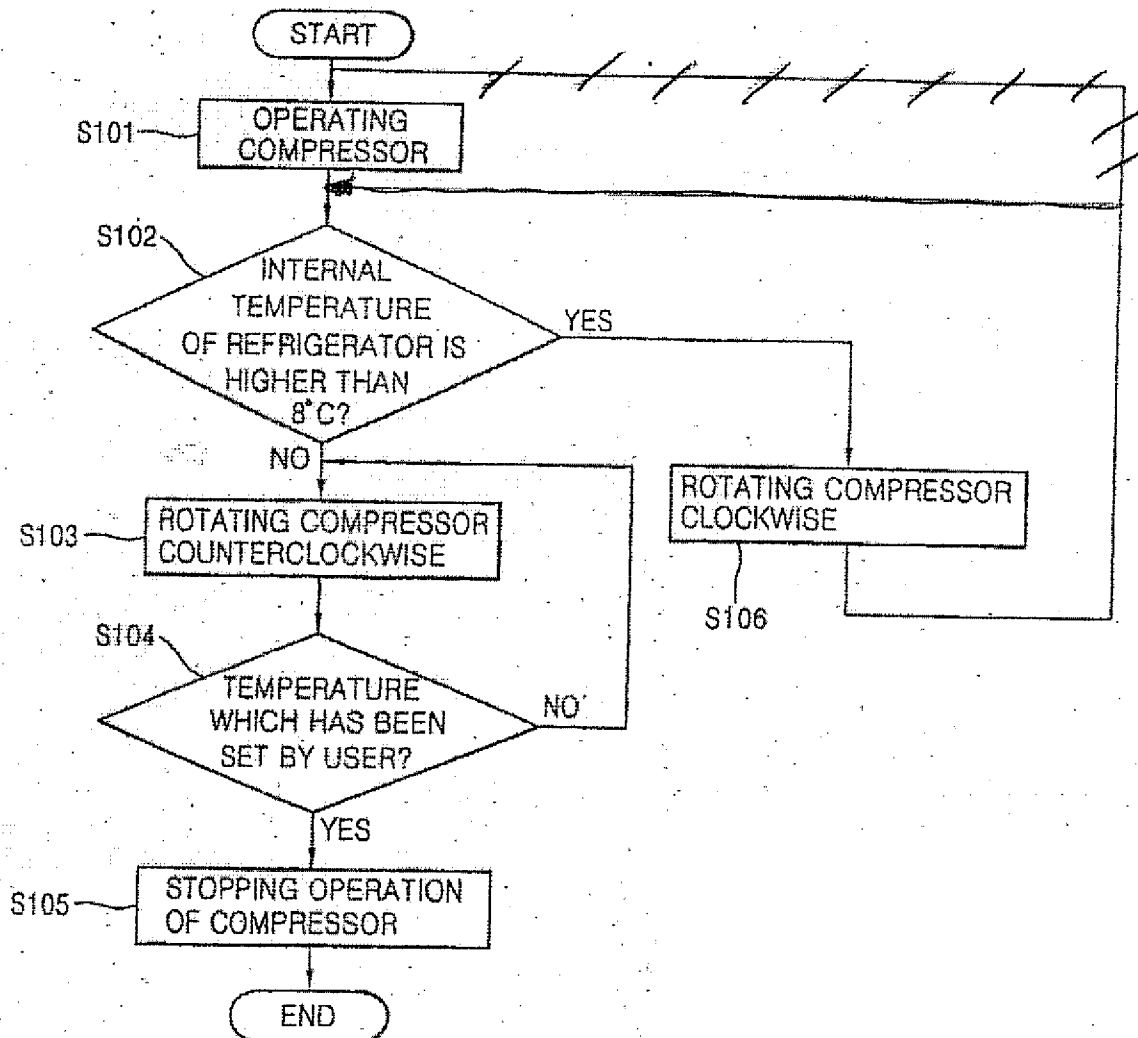
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FIG. 10



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FIG. 13

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FIG. 14



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FIG. 15